

Johnson, Sabrina O

From: Wiesman, Ronald <WiesmanR@hillsboroughcounty.org>
Sent: Wednesday, January 15, 2020 7:39 AM
To: Morgan, Steve; SWD_Waste
Cc: Madden, Melissa; Cope, Ronald; Byer, Kimberly; Ruiz, Larry; O'Neill, Joseph; Spradlin, Kollan; Curtis, Bob
Subject: WACS ID 41193 - Qtr 4 2019 Water Balance & Waste Tire Report for Southeast County
Attachments: 4Q2019 Water Balance Report.pdf; 4Q 2019 Waste Tire Report.pdf

Mr. Morgan,

The Quarterly Water Balance and Waste Tire Reports for the Southeast County Landfill are attached (WACS ID 41193).

Please advise should you have any questions concerning the information provided.

Ron Wiesman II

Manager

Solid Waste Management Division
Public Utilities Department

P: (813) 671-7707 VOIP 42801

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Hillsborough County

15960 County Road 672 Lithia, FL 33547

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Hillsborough County Florida

SOLID WASTE MANAGEMENT

PO Box 1110 Tampa, FL 33601-1110
813-272-5680

January 15, 2020

Mr. Steve Morgan
Solid Waste Section
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637

RE: Waste Tire Facility Quarterly Report - Permit No. 126787-
005-WT/02

Dear Mr. Morgan:

In accordance with Rule 62-711, F.A.C. and Permit No 126787-005-WT/02, the Solid Waste Management Division (SWMD) is submitting the Quarterly Report for the Waste Tire Facility for the period October 1, 2019 through December 31, 2019. The SWMD staff compiled the information from the site's daily reports for this Quarterly Report.

Should you have any questions or require additional information concerning this submittal, please contact me at (813) 671-7707.

Sincerely,

Larry E. Ruiz
Manager Landfill Operations
Solid Waste Management Division

LER/rw

Attachments

xc: Ron Cope, EPC
Kimberly Byer, SWMD

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**WASTE TIRE FACILITY
QUARTERLY TONNAGE REPORT
FOURTH QUARTER 2019**

		FOURTH QUARTER	Beginning Tonnage (Oct. 1, 2019)	
				528.05
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2019	233.61	140.25	159.40	18.99
Beginning Tons	528.05			
	761.66	-140.25	-159.40	-18.99
			Ending Tonnage	443.02
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Nov. 2019	229.81		69.73	9.48
Beginning Tons	443.02			
	672.83	0.00	-69.73	-9.48
			Ending Tonnage	593.62
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Dec. 2019	199.24		184.09	5.08
Beginning Tons	593.62			
	792.86	0.00	-184.09	-5.08
			Ending Tonnage	603.69
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2019	233.61	140.25	159.40	18.99
Nov. 2019	229.81	0.00	69.73	9.48
Dec. 2019	199.24	0.00	184.09	5.08
Sub-Total	662.66	140.25	413.22	33.55
Beginning Tons	528.05			
TOTAL	1,190.71	-140.25	-413.22	-33.6
			Ending Tonnage	603.69



Department of Environmental Protection

DEP Form # 62-701.900(21)
Waste Tire Processing Facility
Form Title <u>Quarterly Report</u>
Effective Date <u>3/22/00</u>
DEP Application No. _____ (Filled in by DEP)

Waste Tire Processing Facility Quarterly Report

Pursuant to Rule 62-711.530, Florida Administrative Code, the owner or operator of a waste tire processing facility shall submit the following information to the Department quarterly.

Quarter covered by this report 10/1/19 thru 12/31/19 (First quarter begins on January 1 of any given year)

1. Facility name: Hillsborough County Southeast Landfill Waste Tire Facility
2. Facility mailing address: 332 N. Falkenburg Road
city: Tampa County: Hillsborough Zip: 33619
3. Facility permit number: 126787-005-WT/02
4. Facility telephone number (813) 671-7707
5. Authorized person preparing report: Larry E. Ruiz
6. Affiliation with facility: Owner Representative - Manager Landfill Operations
7. Telephone number (if different from above): ()
8. Activity: Report in tons

	Beginning Inventory	Received	Processed	Consumed	Removed	Adjustments	Ending Inventory
Used Tires	528.05	662.66			553.47	33.55	603.69
Other whole Tires							
Processed tires							
Processing Waste							
Other							
Total	528.05	662.66			553.47	33.55	603.69

- a. Explain all inventory adjustments. 33.55
33.55 tons of unprocessed truck tires.
- b. List any period in which one or more category of inventory exceeded the permitted maximum for that category. How was that condition relieved?

For any excess inventory at the end of the quarter, state how and when this condition will be relieved.
Attach Additional sheets, if necessary.

9. Certification:

To the best of my knowledge and belief, I certify the information provided in this report is true, accurate, and complete.

Larry E. Ruiz

Print Name of Authorized Agent

Larry Ruiz

Signature of Authorized Agent

1/15/20

Date

Mail complete form to
the appropriate district office

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600



Hillsborough County Florida

SOLID WASTE MANAGEMENT
PO Box 1110 Tampa, FL 33601-1110
813-272-5680

January 15, 2020

Mr. Steve Morgan
Solid Waste Section
Florida Department of Environmental Protection, Southwest
District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637

RE: Southeast County Landfill – Leachate Data Quarterly Report

Dear Mr. Morgan:

In accordance with Specific Condition No. C.12.d of Permit No. 35435-023-SO/01, the Solid Waste Management Division (SWMD) is submitting the Quarterly Leachate Water Balance summary for the Southeast County Landfill for the quarter ending December 31, 2019.

The data is being submitted as separate monthly reports for October, November, and December 2019. The attached reports include the leachate level in Pump Station B (PS-B).

Please advise should you have any questions concerning the attached submittal.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LER/rw
Attachment
xc: Kollan Spradlin, SCS
Ron Cope, EPC

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**Hillsborough
County Florida**

SOLID WASTE MANAGEMENT

PO Box 1110 Tampa, FL 33601-1110
813-272-5680

MEMORANDUM

DATE: November 15, 2019

TO: Larry E. Ruiz, Manager Landfill Operations, Solid Waste Management Division

FROM: Ron W. Wiesman, Manager, Solid Waste Management Division

SUBJECT: Leachate Water Balance Report Forms for October 2019
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2019 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was 8.20 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent in Pond A was 1.7 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of leachate in Pond B was 0.0 feet.

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Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. The level recorded on the thirtieth was caused by a power outage at the landfill, after power was restored and a few hours passed the measurements returned to normal the same day. The average recorded depth of leachate in the PS-B sump was 16.9 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 132,076 gallons. A total of 4,094,351 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column VII presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. This month 1,408 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column VIII presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column VII). This month a total of 357,485 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column IX presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 4,451,836 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column X presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 190,274 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XI presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month zero gallons was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XII presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month zero gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 230,400 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XIV typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The SWMD began storing leachate in this tank in June 2018. The amount of effluent/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 297,000 gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 494,924 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 4,418,868 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month leachate was not used for dust control.

Pond A Storage (Column XVIII)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 55,500 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month an average of 171,700 gallons per day of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XX. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 401,976 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXIII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month effluent was not hauled off site.

Memorandum
November 15, 2019
Page 5 of 5

Total Evaporation (Column XXIV)

Column XXIV presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was zero gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 4,645,046 gallons. Total outflow quantity from the LTRF was 4,913,792 gallons. The change in storage for the month decreased by 268,747 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
OCTOBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal.)	Effluent Sprayed Pond B (gal.)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	0.00	0.0	0.0	14.6	138,874	41	15,496	154,370	4,162	0	0	276,000	425,000	6,836	174,012	0	0	0	0	0	0	0	0
2	0.00	0.0	0.0	14.6	134,794	82	11,888	146,682	5,417	0	0	403,000	261,000	6,836	174,106	0	0	0	0	0	0	0	0
3	0.00	0.0	0.0	14.2	130,934	54	12,211	143,145	5,298	0	0	343,000	309,000	6,836	172,976	0	0	0	0	0	0	0	0
4	0.00	0.0	0.0	15.1	125,831	52	8,818	134,649	3,021	0	0	235,000	391,000	6,836	87,068	0	0	0	0	0	0	0	0
5	0.00	0.0	0.0	14.8	117,067	63	10,721	127,788	3,530	0	0	286,000	425,000	6,836	73,048	0	0	0	0	0	0	0	0
6	0.07	0.0	0.0	14.8	118,924	47	3,363	122,287	4,345	0	0	344,000	397,000	6,836	81,962	0	0	0	0	0	0	0	0
7	0.10	0.0	0.0	14.8	143,147	47	3,363	146,510	4,345	0	0	403,000	369,000	6,836	138,288	0	0	0	0	0	0	0	0
8	0.52	0.0	0.0	14.6	136,162	42	17,702	153,864	5,173	0	0	302,000	485,000	6,836	167,119	0	0	0	0	0	0	0	0
9	1.03	0.0	0.0	14.8	128,791	39	10,406	139,197	4,594	0	0	345,000	369,000	6,844	167,566	0	0	0	0	0	0	0	0
10	0.00	0.0	0.0	17.3	132,413	66	10,852	143,265	3,240	0	0	405,000	278,000	22,002	139,575	0	0	0	0	0	0	0	0
11	0.00	2.5	0.0	17.0	119,721	54	9,048	128,769	5,631	0	0	367,000	283,000	22,307	139,077	0	83,000	0	0	25,441	0	0	20,400
12	0.00	2.4	0.0	16.9	120,914	37	1,851	122,765	4,063	0	0	295,000	259,000	21,102	166,774	0	79,000	0	0	41,420	0	0	33,100
13	0.00	2.4	0.0	17.8	117,374	48	11,339	128,713	4,038	0	0	254,000	326,000	21,102	50,880	0	79,000	0	0	26,286	0	0	21,000
14	0.00	1.8	0.0	18.6	123,647	48	11,339	134,985	4,038	0	0	214,000	394,000	21,102	172,553	0	52,000	0	0	19,969	0	0	16,000
15	0.00	1.7	0.0	14.4	129,354	21	40	129,394	4,087	0	0	317,000	218,000	21,102	202,644	0	48,000	0	0	34,865	0	0	27,900
16	0.13	1.3	0.0	15.4	142,642	50	16,540	159,182	4,149	0	0	218,000	245,000	21,751	187,694	0	36,000	0	0	0	0	0	0
17	0.00	1.8	0.0	17.4	138,771	41	7,869	146,640	3,935	0	0	221,000	173,000	22,173	187,381	0	52,000	0	0	0	0	0	0
18	2.38	2.2	0.0	16.4	131,747	38	3,817	135,564	5,487	0	0	115,000	202,000	20,431	173,488	0	70,000	0	0	39,307	0	0	31,400
19	2.72	2.6	0.0	16.6	133,345	38	10,833	144,178	4,114	0	0	101,000	216,000	21,088	154,348	0	88,000	0	0	0	0	0	0
20	0.00	3.0	0.0	15.4	136,734	37	18,447	155,181	11,875	0	0	130,000	245,000	21,088	0	0	108,000	0	0	0	0	0	0
21	0.00	3.3	0.0	14.2	126,180	37	18,447	144,627	11,875	0	0	158,000	274,000	21,088	152,943	0	123,000	0	0	43,890	0	0	35,100
22	0.00	2.9	0.0	18.5	140,860	25	14,956	155,816	10,934	0	0	252,000	197,000	21,104	174,276	0	103,000	0	0	38,563	0	0	30,900
23	0.00	2.5	0.0	16.1	152,185	49	15,165	167,350	10,882	0	0	192,000	206,000	20,928	144,152	0	83,000	0	0	42,016	0	0	33,600
24	0.00	2.1	0.0	16.7	117,368	50	13,238	130,606	11,030	0	0	62,000	348,000	23,496	152,037	0	65,000	0	0	0	0	0	0
25	0.25	2.2	0.0	16.3	137,304	41	8,431	145,735	5,952	0	0	151,000	221,000	4,870	137,307	0	70,000	0	0	0	0	0	0
26	0.43	2.6	0.0	15.6	149,445	50	17,363	166,808	7,463	0	0	216,000	173,000	25,108	117,879	0	88,000	0	0	24,943	0	0	20,000
27	0.00	2.9	0.0	14.8	141,689	48	14,142	155,830	7,837	0	0	220,000	216,000	25,108	21,446	0	103,000	0	0	0	0	0	0
28	0.00	3.1	0.0	14.0	137,767	48	14,142	151,908	7,837	0	0	223,000	259,000	25,110	172,191	0	113,000	0	0	28,372	0	0	22,700
29	0.57	3.0	0.0	19.0	121,417	59	14,327	135,744	6,107	0	0	94,000	317,000	24,399	159,342	0	108,000	0	0	36,904	0	0	29,500
30	0.00	2.5	0.0	47.3	95,456	39	8,531	103,987	4,273	0	0	0	353,000	2,583	181,431	0	83,000	0	0	0	0	0	0
31	0.00	2.6	0.0	16.5	173,495	19	22,802	196,297	11,544	0	0	0	374,000	4,350	195,305	0	88,000	0	0	0	0	0	0
Total	8.20				4,094,351	1,408	357,485	4,451,836	190,274	0	0			494,924	4,418,868	0			0	401,976	0	0	321,600
Daily Average		1.7	0.0	16.9	132,076	45	11,532	143,608	6,138	0	0	230,400	297,000				55,500	0					
Mo. Average																0				13,000	0	0	10,370

balance/2019/10-19bal.xls

- Notes:
1. NR = No Records, NA = Not Available.
 2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
 3. Daily average is calculated by dividing the total by the actual days measured in the month.
 4. Monthly average calculated by dividing the total by the number of days of the month.
 5. Column II, Trace is less than 0.01 inches and is not included in total.
 6. Columns III and IV, field measured at staff gauges.
 7. Columns VII & VIII, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
 8. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
 9. Columns VI-XII, XVI, and XX-XXIV, quantities from flow meters.
 10. Column XXIV includes 80% of the daily values from Columns XVII, XXI - XXII, plus 5% of the daily values from column XX.

**TABLE 2. FIELD DATA ENTRY FORM
OCTOBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.00	523,145	14.6	2,182,599	2,309,354	5,885,397	875,400	2,069,496	10,025	0.0	0.0	0.0	0	9.58	14.75		87,650	86,362				
2	0.00	625,600	14.6	2,184,037	2,313,333	5,885,397	875,400	2,081,384	10,107	0.0	0.0	0.0	0	14.00	9.08		108,998	65,108				
3	0.00	727,000	14.2	2,185,586	2,317,082	5,885,396	875,400	2,093,595	10,161	0.0	0.0	0.0	0	11.92	10.75		86,736	86,240				
4	0.00	822,141	15.1	2,186,640	2,319,049	5,885,395	875,400	2,102,413	10,213	0.0	0.0	0.0	0	8.17	13.58		79,847	7,221				
5	0.00	921,649	14.8	2,187,322	2,321,897	5,885,394	875,400	2,113,134	10,276	0.0	0.0	0.0	0	9.92	14.75		73,048	0				
6	0.07	1,023,015	14.80	2,188,426	2,325,138	5,885,393	875,400	2,116,497	10,323	0.00	0	0.00	0	11.96	13.79		81,962	0				
7	0.10	1,124,380	14.8	2,189,530	2,328,379	5,885,392	875,400	2,119,860	10,369	0.0	0.0	0.0	0	14.00	12.83		95,091	43,197				
8	0.52	1,227,887	14.6	2,190,697	2,332,385	5,885,392	875,400	2,137,562	10,411	0.0	0.0	0.0	0	10.50	16.83		131,065	36,054				
9	1.03	1,327,100	14.8	2,192,406	2,335,270	5,885,392	875,400	2,147,968	10,450	0.0	0.0	0.0	0	12.00	12.83		131,558	36,008				
10	0.00	1,424,600	17.3	2,192,945	2,337,971	5,885,392	875,400	2,158,820	10,516	0.0	0	0.0	0	14.08	9.67		139,575	0				
11	0.00	1,522,689	17.0	2,194,474	2,342,073	5,885,392	875,400	2,167,868	10,570	0.0	0.0	2.5	25,441	12.75	9.83		139,077	0				
12	0.00	1,618,438	16.9	2,195,926	2,344,684	5,885,391	875,400	2,169,719	10,607	0.0	0.0	2.4	41,420	10.25	9.00		123,985	42,789				
13	0.00	1,710,648	17.75	2,197,230	2,347,418	5,885,391	875,400	2,181,058	10,655	0.00	0	2.4	26,286	8.84	11.34		36,516	14,364				
14	0.00	1,802,857	18.6	2,198,534	2,350,151	5,885,390	875,400	2,192,396	10,702	0.0	0.0	1.8	19,969	7.42	13.67		94,035	78,518				
15	0.00	1,902,391	14.4	2,200,129	2,352,643	5,885,390	875,400	2,192,436	10,723	0.0	0.0	1.7	34,865	11.00	7.58		130,897	71,747				
16	0.13	1,997,239	15.4	2,201,534	2,355,387	5,885,390	875,400	2,208,976	10,773	0.0	0.0	1.3	0	7.58	8.50		123,579	64,115				
17	0.00	2,098,487	17.4	2,202,608	2,358,248	5,885,390	875,400	2,216,845	10,814	0.0	0.0	1.8	0	7.67	6.00		123,016	64,365				
18	2.38	2,194,411	16.4	2,204,394	2,361,949	5,885,391	875,400	2,220,662	10,852	0.0	0.0	2.2	39,307	4.00	7.00		116,059	57,429				
19	2.72	2,295,420	16.6	2,205,647	2,364,810	5,885,389	875,400	2,231,495	10,890	0.0	0.0	2.6	0	3.50	7.50		118,707	35,641				
20	0.00	2,399,818	15.4	2,209,530	2,372,802	5,885,389	875,400	2,249,942	10,927	0.0	0.0	3.0	0	4.50	8.50							
21	0.00	2,504,216	14.2	2,213,413	2,380,793	5,885,389	875,400	2,268,389	10,964	0.0	0.0	3.3	43,890	5.50	9.50		102,947	49,996				
22	0.00	2,620,040	18.5	2,216,979	2,388,161	5,885,385	875,400	2,283,345	10,989	0.0	0.0	2.9	38,563	8.75	6.83		131,322	42,954				
23	0.00	2,727,610	16.1	2,221,228	2,394,794	5,885,385	875,400	2,298,510	11,038	0.0	0.0	2.5	42,016	6.67	7.17		94,069	50,083				
24	0.00	2,834,690	16.7	2,222,483	2,404,569	5,885,381	875,400	2,311,748	11,088	0.0	0.0	2.1	0	2.17	12.08		79,884	72,153				
25	0.25	2,943,097	16.3	2,225,040	2,407,964	5,885,381	875,400	2,320,179	11,129	0.0	0.0	2.2	0	5.25	7.67		94,390	42,917				
26	0.43	3,051,039	15.6	2,227,560	2,412,907	5,885,381	875,400	2,337,542	11,179	0.0	0.0	2.6	24,943	7.50	6.00		74,777	43,102				
27	0.00	3,151,219	14.8	2,230,074	2,418,231	5,885,381	875,400	2,351,684	11,227	0.0	0.0	2.9	0	7.63	7.50			21,446				
28	0.00	3,251,399	14.0	2,232,587	2,423,554	5,885,380	875,400	2,365,825	11,275	0.0	0.0	3.1	28,372	7.75	9.00		93,909	78,282				
29	0.57	3,353,625	19.0	2,234,397	2,427,851	5,885,380	875,400	2,380,152	11,334	0.0	0.0	3.0	36,904	3.25	11.00		87,279	72,063				
30	0.00	3,414,111	47.3	2,235,724	2,430,797	5,885,380	875,400	2,388,683	11,373	0.0	0.0	2.5	0	0.00	12.25		109,714	71,717				
31	0.00	3,549,080	16.5	2,242,007	2,436,058	5,885,380	875,400	2,411,485	11,392	0.0	0.0	2.6	0	0.00	13.00		116,305	79,000				
Totals	8.20										0		401,976			0	3,005,997	1,412,871	0	0	0	0

balance(2019)10-19bal.xls

Notes:

- NR = No Records, NA = Not Available.
- Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
- Columns G and J include quantities from leak detection system.
- Column B, trace is less than 0.01 inches.
- Columns C, D, E, F, G, H, I, J, K, L, N, R-V and W are quantities from flow meters.
- Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

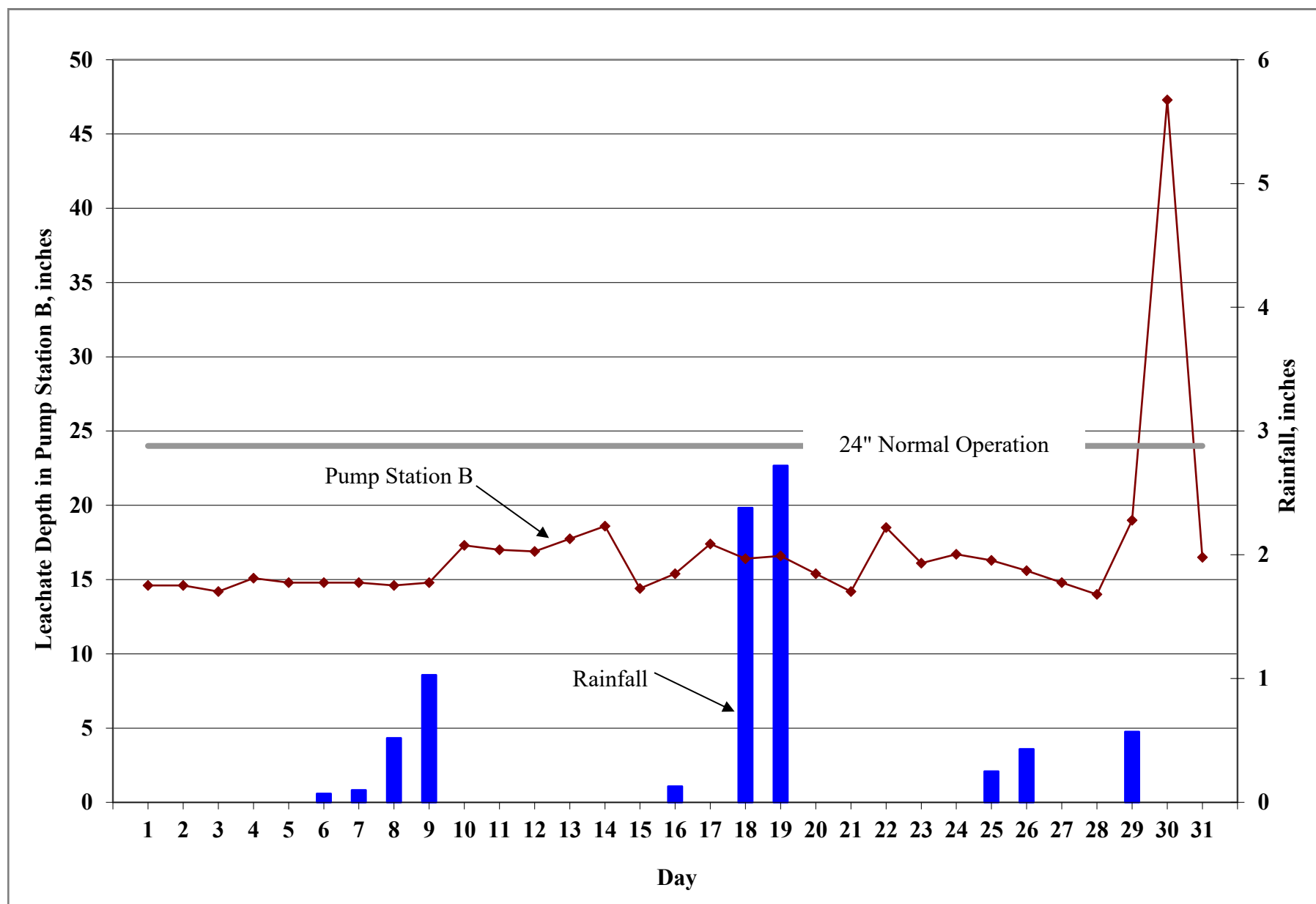


Figure 1. Leachate Levels in Pump Station B and Rainfall for October 2019.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2019**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		Condensate from LFG CS-1 (gal.)	Leachate from Section 9 Pumped to LTRF (gal.)	Leachate from Section 7-8 Pumped to LTRF (gal.)	Leachate from Phases I-VI Pumped to LTRF (gal.)	Compost Leachate (gal.)	Total Leachate Hauled from LTRF (gal.)	Leachate Dust Control (Sprayed) (gal.)	Leachate Treated at LTRF (gal.)	Total Effluent Hauled (gal.)	Effluent Dust Control (Sprayed) (gal.)	Effluent Irrigation (gal.)	Total Inflow to LTRF (gal.)	Total Outflow from LTRF (gal.)	Change in Storage ³ (gal.)
January	3.49	5,965	183,738	300,356	3,440,156	86,476	3,729,332	0	0	0	0	0	4,016,691	3,729,332	287,359
February	1.79	5,764	134,983	209,810	2,852,838	8,503	3,154,367	0	0	0	0	0	3,211,898	3,154,367	57,531
March	1.66	5,650	113,315	197,794	2,758,333	2,816	2,856,561	0	0	0	0	0	3,077,908	2,856,561	221,347
April	1.93	4,894	91,489	150,765	2,229,544	0	2,151,105	0	0	0	0	0	2,476,692	2,151,105	325,587
May	3.48	4,873	85,825	138,667	2,197,558	13,400	2,180,324	0	0	0	0	0	2,440,323	2,180,324	259,999
June	8.24	6,360	82,019	139,810	2,120,857	213,400	2,595,924	0	0	0	0	0	2,562,446	2,595,924	-33,479
July	16.80	40,540	222,521	319,700	2,348,809	393,000	3,018,581	0	0	0	0	0	3,324,570	3,018,581	305,989
August	10.78	23,589	230,478	854,886	4,123,659	255,600	5,365,060	0	0	0	0	0	5,488,212	5,365,060	123,152
September	1.50	4,193	230,478	493,733	3,903,411	0	4,552,505	0	0	0	0	0	4,631,815	4,552,505	79,310
October	8.20	2,936	190,274	357,485	4,094,351	0	4,418,868	0	494,924	0	0	401,976	4,645,046	4,913,792	-268,747
November															
December															
YTD Total	57.87	104,764	1,565,120	3,163,006	30,069,515	973,195	34,022,627	0	494,924	0	0	401,976	35,875,600	34,517,551	1,358,049

Note:

1. If the bypass at the effluent pond is ever used to pump effluent back to the LTRF, this table must be modified.
2. Change in storage represents total inflow to LTRF minus total outflow from LTRF.



**Hillsborough
County Florida**

SOLID WASTE MANAGEMENT

PO Box 1110 Tampa, FL 33601-1110
813-272-5680

MEMORANDUM

DATE: December 13, 2019

TO: Larry E. Ruiz, Manager Landfill Operations, Solid Waste Management Division

FROM: Ron W. Wiesman, Manager, Solid Waste Management Division

SUBJECT: Leachate Water Balance Report Forms for November 2019
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2019 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was .98 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent in Pond A was 2.0 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of leachate in Pond B was 0.1 feet.

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Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. The average recorded depth of leachate in the PS-B sump was 16.6 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 125,672 gallons. A total of 3,770,161 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column VII presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. This month 1,411 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column VIII presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column VII). This month a total of 302,347 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column IX presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 4,072,508 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column X presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 165,074 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XI presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month zero gallons was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XII presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month zero gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 184,400 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XIV typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The SWMD began storing leachate in this tank in June 2018. This tank was emptied from leachate on twenty-seventh of November for cleaning, inspection and repairs. The amount of effluent/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 140,900 gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 615,531 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 3,468,733 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month leachate was not used for dust control.

Pond A Storage (Column XVIII)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 63,700 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month an average of 1,600 gallons per day of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XX. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 569,265 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXIII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month effluent was not hauled off site.

Memorandum
December 13, 2019
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Total Evaporation (Column XXIV)

Column XXIV presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was 455,400 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 4,238,710 gallons. Total outflow quantity from the LTRF was 4,084,264 gallons. The change in storage for the month increased by 154,446 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
NOVEMBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
		Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)		Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)		Pond A Storage (gal.)	Pond B Storage (gal.)	Effluent Sprayed Pond B (gal.)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
Day		Rainfall (in.)																					
1		0.00	2.6	0.0	16.2	135,008	54	22,420	157,428	6,983	0	0	345,000	7,383	180,947		88,000		0	22,465	0	0	18,000
2		0.00	2.4	0.0	11.6	136,944	58	5,961	142,905	6,717	0	0	312,000	6,702	196,284		79,000	0	0	45,693	0	0	36,600
3		0.00	2.4	0.0	13.3	135,997	28	11,635	147,631	7,999	0	0	351,000	6,702	0	0	79,000	0	0	0	0	0	0
4		0.00	1.5	0.0	18.9	134,371	28	11,655	146,026	7,999	0	0	391,000	6,703	168,656		40,000		0	19,118	0	0	15,300
5		0.00	1.2	0.0	16.0	134,652	37	11,612	146,264	5,978	0	0	122,000	274,000	2,840	144,633	0	32,000	0	0	0	0	0
6		0.07	1.4	0.0	14.2	132,663	27	11,634	144,297	8,025	0	0	156,000	194,000	11,519	129,181	0	36,000	0	0	0	0	0
7		0.06	1.7	0.0	18.7	128,956	48	11,395	140,351	4,889	0	0	218,000	122,000	16,770	173,382	0	48,000	0	0	0	0	0
8		0.01	1.9	0.0	18.0	128,953	55	9,530	138,483	6,504	0	0	106,000	209,000	15,051	158,853	0	57,000	0	0	0	0	0
9		0.04	2.2	0.0	15.5	131,421	52	11,017	142,438	6,322	0	0	144,000	173,000	16,029	146,271	0	70,000	0	0	12,513	0	10,000
10		0.00	2.2	0.0	15.0	121,772	12	10,598	132,370	5,835	0	0	211,000	128,000	16,029	0	0	70,000	0	0	0	0	0
11		0.00	2.5	0.0	14.4	122,474	12	10,598	133,072	5,835	0	0	278,000	84,000	16,029	189,351	0	83,000	0	0	29,598	0	23,700
12		0.04	2.2	0.0	19.8	123,416	34	9,022	132,436	5,511	0	0	156,000	151,000	16,032	173,187	0	70,000	0	0	38,406	0	30,700
13		0.00	1.8	0.0	13.8	135,670	0	11,242	146,912	5,597	0	0	125,000	101,000	22,937	137,112	0	52,000	0	0	0	0	0
14		0.01	2.2	0.0	22.7	123,229	228	9,121	132,350	4,254	0	0	115,000	113,000	22,937	93,384	0	70,000	0	0	0	0	0
15		0.01	2.6	0.0	17.9	126,341	36	9,382	135,723	6,007	0	0	144,000	115,000	22,476	92,161	0	88,000	0	0	0	0	0
16		0.00	3.0	0.0	18.0	126,727	39	11,656	138,383	5,755	0	0	173,000	115,000	25,835	79,764	0	108,000	0	0	53,066	0	42,500
17		0.00	2.9	0.0	16.8	123,968	60	15,068	139,036	4,877	0	0	234,000	115,000	25,835	0	0	103,000	0	0	0	0	0
18		0.00	2.7	0.0	15.6	124,119	60	15,068	139,187	4,877	0	0	295,000	115,000	25,835	130,495	0	93,000	0	0	44,761	0	35,800
19		0.00	2.2	0.0	19.4	132,958	41	2,798	135,756	3,994	0	0	230,000	173,000	23,022	100,978	0	70,000	0	0	10,290	0	8,200
20		0.00	2.4	0.0	13.0	120,168	50	9,452	129,620	5,510	0	0	233,000	156,000	24,078	143,959	0	79,000	0	0	41,251	0	33,000
21		0.00	2.1	0.0	16.9	124,526	43	149	124,675	4,160	0	0	180,000	156,000	22,540	143,881	0	65,000	0	0	75,790	0	60,600
22		0.00	1.0	0.0	18.1	123,572	51	15,883	139,455	3,877	0	0	180,000	115,000	22,927	129,641	0	24,000	0	0	14,534	0	11,600
23		0.70	1.1	0.0	17.1	128,141	60	8,017	136,158	4,887	0	0	178,000	58,000	24,476	136,389	0	28,000	0	0	0	0	0
24		0.04	1.1	0.0	17.7	122,461	36	8,812	131,273	4,982	0	0	248,000	55,000	24,476	0	0	28,000	0	0	0	0	0
25		0.00	2.1	0.0	18.2	119,410	36	8,812	128,222	4,982	0	0	319,000	53,000	24,478	101,198	0	65,000	0	0	51,759	0	41,400
26		0.00	1.7	0.0	15.2	117,999	37	7,504	125,503	4,086	0	0	302,000	53,000	33,178	136,916	0	48,000	0	0	0	0	0
27		0.00	1.8	0.8	18.6	122,372	56	8,991	131,363	5,621	0	0	290,000	0	33,178	151,243	0	52,000	12,000	0	35,969	0	28,800
28		0.00	1.8	0.8	16.1	109,243	52	7,181	116,424	5,418	0	0	299,000	0	33,178	0	0	52,000	12,000	0	0	0	0
29		0.00	2.2	0.8	13.6	109,873	52	7,181	117,054	5,418	0	0	307,000	0	33,178	108,392	0	70,000	12,000	0	43,115	0	34,500
30		0.00	2.1	0.8	16.0	112,758	30	8,935	121,693	2,179	0	0	288,000	0	33,178	122,475	0	65,000	12,000	0	30,937	0	24,700
Total		0.98				3,770,161	1,411	302,347	4,072,508	165,074	0	0		615,531	3,468,733		0			569,265	0	0	455,400
Daily Average			2.0	0.1	16.6	125,672	47	10,078	135,750	5,502	0	0	184,400	140,900			63,700	1,600		19,000	0	0	15,180
Mo. Average																							

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Notes:

1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
3. Daily average is calculated by dividing the total by the actual days measured in the month.
4. Monthly average calculated by dividing the total by the number of days of the month.
5. Column II, Trace is less than 0.01 inches and is not included in total.
6. Columns III and IV, field measured at staff gauges.
7. Columns VII & VIII, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
8. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
9. Columns VI-XII, XVI, and XX-XXIV, quantities from flow meters.
10. Column XXIV includes 80% of the daily values from Columns XVII, XXI - XXII, plus 5% of the daily values from column XX.

**TABLE 2. FIELD DATA ENTRY FORM
NOVEMBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.00	3,648,119	16.2	2,244,172	2,440,876	5,885,380	875,400	2,433,905	11,446	0.0	0.0	2.6	22,465	0.00	12.00		116,268	64,679				
2	0.00	3,748,530	11.6	2,246,141	2,445,624	5,885,379	875,400	2,439,866	11,504	0.0	0.0	2.4	45,693	0.00	10.83		110,133	86,151				
3	0.00	3,847,994	15.3	2,248,444	2,451,320	5,885,379	875,400	2,451,521	11,532	0.0	0.0	2.4	0	0.00	12.21							
4	0.00	3,947,457	18.9	2,250,747	2,457,015	5,885,379	875,400	2,463,175	11,560	0.0	0.0	1.5	19,118	0.00	13.58		125,576	43,080				
5	0.00	4,048,469	16.0	2,252,721	2,461,019	5,885,379	875,400	2,474,787	11,597	0.0	0.0	1.2	0	4.25	9.50		101,803	42,830				
6	0.07	4,147,490	14.2	2,255,254	2,466,511	5,885,379	875,400	2,486,421	11,624	0	0	1.4	0	5.42	6.75		36,485	92,696				
7	0.06	4,243,395	18.7	2,256,847	2,469,807	5,885,379	875,400	2,497,816	11,672	0.0	0.0	1.7	0	7.58	4.25		94,613	78,769				
8	0.01	4,336,790	18.0	2,258,658	2,474,500	5,885,379	875,400	2,507,346	11,727	0.0	0.0	1.9	0	3.67	7.25		87,403	71,450				
9	0.04	4,435,247	15.5	2,260,676	2,478,804	5,885,380	875,400	2,518,363	11,779	0.0	0.0	2.2	12,513	5.00	6.00		81,985	64,286				
10	0.00	4,524,056	15.0	2,262,383	2,482,932	5,885,379	875,400	2,528,961	11,791	0.0	0	2.2	0	7.34	4.46							
11	0.00	4,612,864	14.4	2,264,089	2,487,060	5,885,377	875,400	2,539,559	11,803	0.0	0.0	2.5	29,598	9.67	2.92		146,416	42,935				
12	0.04	4,701,575	19.8	2,264,601	2,492,059	5,885,377	875,400	2,548,581	11,837	0.0	0.0	2.2	38,406	5.42	5.25		87,409	85,778				
13	0.00	4,802,777	13.8	2,269,389	2,492,868	5,885,373	875,400	2,559,823	11,837	0	0	1.8	0	4.33	3.50		87,258	49,854				
14	0.01	4,891,620	22.7	2,273,643	2,492,868	5,885,373	875,400	2,568,944	12,065	0.0	0.0	2.2	0	4.00	3.92		50,752	42,632				
15	0.01	4,983,765	17.9	2,279,650	2,492,868	5,885,369	875,400	2,578,326	12,101	0.0	0.0	2.6	0	5.00	4.00		57,894	34,267				
16	0.00	5,076,630	18.0	2,285,405	2,492,868	5,885,366	875,400	2,589,982	12,140	0.0	0.0	3.0	53,066	6.00	4.00		36,669	43,095				
17	0.00	5,166,736	16.8	2,290,282	2,492,868	5,885,364	875,400	2,605,050	12,200	0.0	0.0	2.9	0	8.13	4.00							
18	0.00	5,256,842	15.6	2,295,158	2,492,868	5,885,361	875,400	2,620,117	12,260	0.0	0.0	2.7	44,761	10.25	4.00		87,510	42,985				
19	0.00	5,355,790	19.4	2,299,150	2,492,870	5,885,361	875,400	2,622,915	12,301	0.0	0.0	2.2	10,290	8.00	6.00		58,012	42,966				
20	0.00	5,442,400	13.0	2,304,660	2,492,870	5,885,361	875,400	2,632,367	12,351	0.0	0.0	2.4	41,251	8.08	5.42		50,778	93,181				
21	0.00	5,532,557	16.9	2,308,768	2,492,922	5,885,361	875,400	2,632,516	12,394	0.0	0.0	2.1	75,790	6.25	5.42		58,039	85,842				
22	0.00	5,617,367	18.1	2,312,645	2,492,922	5,885,360	875,400	2,648,399	12,445	0.0	0.0	1.0	14,534	6.25	4.00		58,004	71,637				
23	0.70	5,712,035	17.1	2,317,532	2,492,922	5,885,360	875,400	2,656,416	12,505	0.0	0.0	1.1	0	6.17	2.00		43,535	92,854				
24	0.04	5,801,023	17.7	2,322,514	2,492,922	5,885,361	875,400	2,665,228	12,541	0.0	0.0	1.1	0	8.63	1.92							
25	0.00	5,890,011	18.2	2,327,496	2,492,922	5,885,362	875,400	2,674,040	12,576	0.0	0.0	2.1	51,759	11.08	1.83		58,106	43,092				
26	0.00	5,976,999	15.2	2,331,580	2,492,924	5,885,362	875,400	2,681,544	12,613	0.0	0.0	1.7	0	10.50	1.83		58,040	78,876				
27	0.00	6,072,005	18.6	2,337,197	2,492,928	5,885,362	875,400	2,690,535	12,669	0.8	0.0	1.8	35,969	10.08	0.00		65,175	86,068				
28	0.00	6,153,882	16.1	2,342,608	2,492,935	5,885,362	875,400	2,697,716	12,721	0.8	0.0	1.8	0	10.38	0.00							
29	0.00	6,235,759	13.6	2,348,019	2,492,941	5,885,362	875,400	2,704,897	12,773	0.8	0.0	2.2	43,115	10.67	0.00		65,155	43,237				
30	0.00	6,319,302	16.0	2,350,195	2,492,944	5,885,362	875,400	2,713,832	12,803	0.8	0.0	2.1	30,937	10.00	0.00		50,635	71,840				
Totals	0.98										0		569,265			0	1,873,653	1,595,080	0	0	0	0

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Notes:

1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
3. Columns G and J include quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, E, F, G, H, I, J, K, L, N, R-V and W are quantities from flow meters.
6. Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

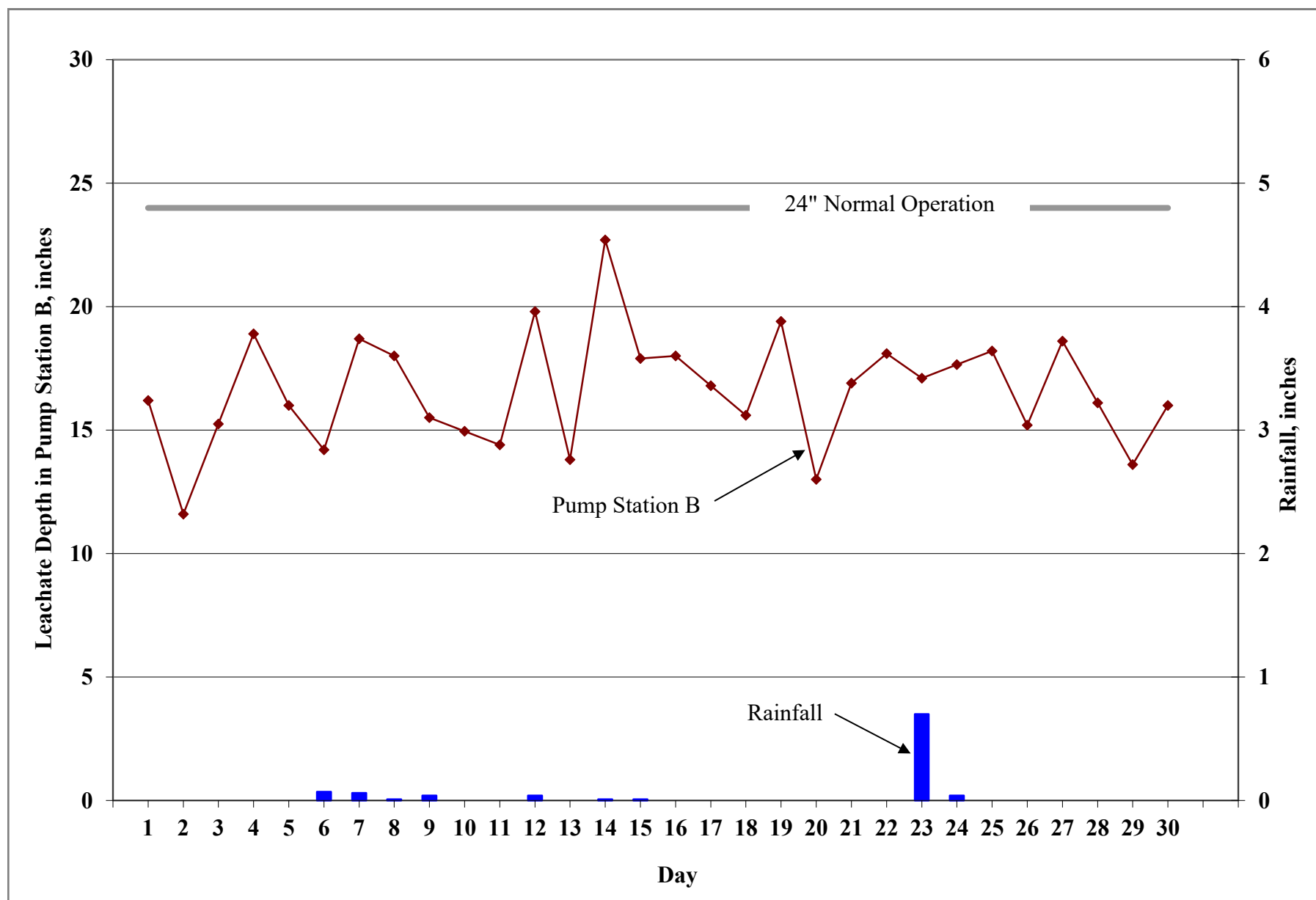


Figure 1. Leachate Levels in Pump Station B and Rainfall for November 2019.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2019**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		Condensate from LFG CS-1 (gal.)	Leachate from Section 9 Pumped to LTRF (gal.)	Leachate from Section 7-8 Pumped to LTRF (gal.)	Leachate from Phases I-VI Pumped to LTRF (gal.)	Compost Leachate (gal.)	Total Leachate Hauled from LTRF (gal.)	Leachate Dust Control (Sprayed) (gal.)	Leachate Treated at LTRF (gal.)	Total Effluent Hauled (gal.)	Effluent Dust Control (Sprayed) (gal.)	Effluent Irrigation (gal.)	Total Inflow to LTRF (gal.)	Total Outflow from LTRF (gal.)	Change in Storage ³ (gal.)
January	3.49	5,965	183,738	300,356	3,440,156	86,476	3,729,332	0	0	0	0	0	4,016,691	3,729,332	287,359
February	1.79	5,764	134,983	209,810	2,852,838	8,503	3,154,367	0	0	0	0	0	3,211,898	3,154,367	57,531
March	1.66	5,650	113,315	197,794	2,758,333	2,816	2,856,561	0	0	0	0	0	3,077,908	2,856,561	221,347
April	1.93	4,894	91,489	150,765	2,229,544	0	2,151,105	0	0	0	0	0	2,476,692	2,151,105	325,587
May	3.48	4,873	85,825	138,667	2,197,558	13,400	2,180,324	0	0	0	0	0	2,440,323	2,180,324	259,999
June	8.24	6,360	82,019	139,810	2,120,857	213,400	2,595,924	0	0	0	0	0	2,562,446	2,595,924	-33,479
July	16.80	40,540	222,521	319,700	2,348,809	393,000	3,018,581	0	0	0	0	0	3,324,570	3,018,581	305,989
August	10.78	23,589	230,478	854,886	4,123,659	255,600	5,365,060	0	0	0	0	0	5,488,212	5,365,060	123,152
September	1.50	4,193	230,478	493,733	3,903,411	0	4,552,505	0	0	0	0	0	4,631,815	4,552,505	79,310
October	8.20	2,936	190,274	357,485	4,094,351	0	4,418,868	0	494,924	0	0	401,976	4,645,046	4,913,792	-268,747
November	0.98	1,128	165,074	302,347	3,770,161	0	3,468,733	0	615,531	0	0	569,265	4,238,710	4,084,264	154,446
December															
YTD Total	58.85	105,892	1,730,194	3,465,353	33,839,676	973,195	37,491,360	0	1,110,455	0	0	971,241	40,114,310	38,601,815	1,512,495

Note:

1. If the bypass at the effluent pond is ever used to pump effluent back to the LTRF, this table must be modified.
2. Change in storage represents total inflow to LTRF minus total outflow from LTRF.



Hillsborough County Florida

SOLID WASTE MANAGEMENT

PO Box 1110 Tampa, FL 33601-1110
813-272-5680

BOARD OF COUNTY COMMISSIONERS

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Christine M. Beck

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Peggy Caskey

INFRASTRUCTURE SERVICES ADMINISTRATOR

John Lyons

MEMORANDUM

DATE: January 10, 2020

TO: Larry E. Ruiz, Manager Landfill Operations, Solid
Waste Management Division

FROM: Ron W. Wiesman, Manager, Solid Waste
Management Division

SUBJECT: Leachate Water Balance Report Forms for December 2019
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2019 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was 3.46 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent in Pond A was 2.9 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of leachate in Pond B was 0.2 feet.

Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. The average recorded depth of leachate in the PS-B sump was 16.0 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 106,955 gallons. A total of 3,315,608 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column VII presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. On the twenty-first the flowmeter was replaced by the contractor with a starting number of 91,112. This month 807 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column VIII presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column VII). This month a total of 241,725 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column IX presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 3,557,333 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column X presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 124,625 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XI presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month zero gallons was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XII presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month zero gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 238,600 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XIV typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The SWMD began storing leachate in this tank in June 2018. This tank was emptied from leachate on twenty-seventh of November for cleaning, inspection and repairs. The amount of effluent/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of zero gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 741,602 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 2,956,540 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month leachate was not used for dust control.

Pond A Storage (Column XVIII)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 106,100 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month an average of 3,400 gallons per day of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XX. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 346,857 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXIII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month a total of 7,130 gallons of effluent was hauled off site.

Total Evaporation (Column XXIV)

Column XXIV presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was 277,400 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 3,683,003 gallons. Total outflow quantity from the LTRF was 3,698,142 gallons. The change in storage for the month decreased by 15,139 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
DECEMBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal.)	Effluent Sprayed Pond B (gal.)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	0.00	2.1	0.8	17.6	116,714	51	7,307	124,021	3,532	0	0	271,000	0	33,178	0	0	65,000	12,000	0	0	0	0	0
2	0.18	2.5	0.8	18.1	116,951	43	8,207	125,158	4,955	0	0	345,000	0	33,178	152,150	0	83,000	12,000	0	0	0	0	0
3	0.00	3.1	0.8	15.5	109,692	69	8,787	118,479	4,335	0	0	274,000	0	33,181	173,104	0	113,000	12,000	0	44,791	0	0	35,800
4	0.00	2.9	0.8	19.1	96,253	18	15,369	111,622	3,432	0	0	187,000	0	39,781	136,445	0	103,000	12,000	0	0	0	0	0
5	0.00	3.2	0.8	17.2	99,825	43	14,352	114,177	3,788	0	0	156,000	0	35,218	136,589	0	118,000	12,000	0	24,697	0	0	19,800
6	0.00	3.0	0.8	13.2	110,947	24	107	111,054	3,069	0	0	127,000	0	22,611	108,186	0	108,000	12,000	0	0	0	0	0
7	0.00	3.4	0.0	16.5	112,265	39	7,861	120,126	5,829	0	0	125,000	0	25,007	71,253	0	129,000	0	0	53,532	0	0	42,800
8	0.00	3.3	0.0	16.7	115,332	37	6,865	122,196	3,146	0	0	188,000	0	19,925	0	0	123,000	0	0	0	0	0	0
9	0.00	3.1	0.0	16.8	115,625	37	6,865	122,489	3,146	0	0	252,000	0	19,925	101,066	0	113,000	0	0	0	0	0	0
10	0.00	3.4	0.0	18.7	117,530	19	7,931	125,461	4,523	0	0	238,000	0	22,289	144,026	0	129,000	0	0	20,773	0	0	16,600
11	0.00	3.4	0.0	15.1	113,235	25	7,999	121,234	3,705	0	0	178,000	0	22,440	122,474	0	129,000	0	0	13,003	0	7,130	10,400
12	0.00	3.4	0.0	15.0	106,646	12	5,419	112,065	3,024	0	0	134,000	0	22,440	144,016	0	129,000	0	0	0	0	0	0
13	0.00	3.6	0.0	13.0	114,821	28	7,327	122,148	3,633	0	0	113,000	0	22,440	107,568	0	145,000	0	0	0	0	0	0
14	0.00	2.2	0.0	15.1	117,611	17	6,779	124,390	4,083	0	0	214,000	0	22,440	92,519	0	70,000	0	0	61,022	0	0	48,800
15	0.00	1.9	0.0	15.2	111,259	19	6,667	117,926	3,321	0	0	253,000	0	22,440	0	0	57,000	0	0	0	0	0	0
16	0.00	1.6	0.0	15.2	110,670	19	6,667	117,337	3,321	0	0	293,000	0	22,440	65,276	0	44,000	0	0	15,893	0	0	12,700
17	1.38	1.7	0.0	20.0	115,125	45	7,751	122,876	4,647	0	0	324,000	0	22,566	101,070	0	48,000	0	0	14,625	0	0	11,700
18	0.04	2.1	0.0	19.5	113,969	0	7,633	121,602	3,819	0	0	322,000	0	22,566	150,930	0	65,000	0	0	0	0	0	0
19	0.00	2.4	0.0	14.1	108,631	16	5,459	114,090	2,946	0	0	238,000	0	18,426	135,958	0	79,000	0	0	0	0	0	0
20	0.00	2.5	0.0	19.5	102,020	0	7,238	109,258	3,797	0	0	221,000	0	18,426	49,924	0	83,000	0	0	27,695	0	0	22,200
21	0.27	2.4	0.0	17.3	106,130	0	5,483	111,613	2,682	0	0	250,000	0	21,691	120,902	0	79,000	0	0	0	0	0	0
22	0.82	2.6	0.0	15.7	109,167	11	7,440	116,607	3,967	0	0	287,000	0	21,691	0	0	88,000	0	0	0	0	0	0
23	0.67	2.7	0.0	14.1	89,926	11	7,440	97,366	3,967	0	0	324,000	0	21,691	127,034	0	93,000	0	0	0	0	0	0
24	0.00	3.0	0.0	15.1	107,310	27	274	107,584	4,973	0	0	259,000	0	21,691	93,016	0	108,000	0	0	0	0	0	0
25	0.01	3.4	0.0	14.5	95,369	24	10,952	106,321	5,641	0	0	298,000	0	21,691	0	0	129,000	0	0	0	0	0	0
26	0.00	3.7	0.0	13.9	88,206	24	10,952	99,158	5,641	0	0	336,000	0	21,691	151,088	0	151,000	0	0	39,024	0	0	31,200
27	0.01	3.3	0.0	14.4	100,997	27	7,566	108,563	5,424	0	0	245,000	0	21,691	121,537	0	123,000	0	0	0	0	0	0
28	0.07	3.6	0.0	13.8	90,278	20	12,092	102,370	864	0	0	216,000	0	22,212	114,283	0	145,000	0	0	31,802	0	0	25,400
29	0.01	3.6	0.4	14.1	90,776	40	13,423	104,199	4,588	0	0	233,000	0	22,212	0	0	145,000	3,000	0	0	0	0	0
30	0.00	3.6	0.8	14.4	109,211	40	13,423	122,634	4,588	0	0	250,000	0	22,213	100,249	0	145,000	12,000	0	0	0	0	0
31	0.00	3.7	1.0	16.8	103,124	26	92	103,216	6,241	0	0	245,000	0	22,211	135,877	0	151,000	19,000	0	0	0	0	0
Total	3.46				3,315,608	807	241,725	3,557,333	124,625	0	0			741,602	2,956,540	0			0	346,857	0	7,130	277,400
Daily Average		2.9	0.2	16.0	106,955	26	7,798	114,753	4,020	0	0	238,600	0				106,100	3,400					
Mo. Average																0				11,200	0	200	8,950

balance/2019/12-19bal.xls

- Notes:
1. NR = No Records, NA = Not Available.
 2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
 3. Daily average is calculated by dividing the total by the actual days measured in the month.
 4. Monthly average calculated by dividing the total by the number of days of the month.
 5. Column II, Trace is less than 0.01 inches and is not included in total.
 6. Columns III and IV, field measured at staff gauges.
 7. Columns VII & VIII, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
 8. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
 9. Columns VI-XII, XVI, and XX-XXIV, quantities from flow meters.
 10. Column XXIV includes 80% of the daily values from Columns XVII, XXI - XXII, plus 5% of the daily values from column XX.

**TABLE 2. FIELD DATA ENTRY FORM
DECEMBER 2019
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.00	6,405,005	17.6	2,353,725	2,492,946	5,885,362	0	2,721,139	12,854	0.8	0.0	2.1	0	9.42	0.00	33,178						
2	0.18	6,493,488	18.1	2,358,680	2,492,946	5,885,361	0	2,729,346	12,897	0.8	0.0	2.5	0	12.00	0.00	33,178	109,190	42,960				
3	0.00	6,588,785	15.5	2,363,014	2,492,947	5,885,361	0	2,738,133	12,966	0.8	0.0	3.1	44,791	9.50	0.00	33,181	79,956	93,148				
4	0.00	6,677,083	19.1	2,366,445	2,492,948	5,885,361	0	2,753,502	12,984	0.8	0.0	2.9	0	6.50	0.00	39,781	50,789	85,656				
5	0.00	6,765,534	17.2	2,370,232	2,492,949	5,885,361	0	2,767,854	13,027	0.8	0.0	3.2	24,697	5.42	0.00	35,218	50,800	85,789				
6	0.00	6,845,590	13.2	2,373,081	2,493,169	5,885,361	0	2,767,961	13,051	0.8	0	3.0	0	4.42	0.00	22,611	50,822	57,364				
7	0.00	6,927,002	16.5	2,378,909	2,493,170	5,885,361	0	2,775,822	13,090	0.0	0.0	3.4	53,532	4.33	0.00	25,007	0	71,253				
8	0.00	7,011,481	16.7	2,382,054	2,493,171	5,885,361	0	2,782,687	13,127	0.0	0.0	3.3	0	6.54	0.00	19,925						
9	0.00	7,095,959	16.8	2,385,198	2,493,172	5,885,361	0	2,789,551	13,163	0.0	0.0	3.1	0	8.75	0.00	19,925	58,054	43,012				
10	0.00	7,181,491	18.7	2,389,720	2,493,173	5,885,361	0	2,797,482	13,182	0.0	0	3.4	20,773	8.25	0.00	22,289	58,034	85,992				
11	0.00	7,271,299	15.1	2,393,425	2,493,173	5,885,361	0	2,805,481	13,207	0.0	0.0	3.4	13,003	6.17	0.00	22,440	58,010	64,464			7,130	
12	0.00	7,349,772	15.0	2,396,449	2,493,173	5,885,361	0	2,810,900	13,219	0.0	0.0	3.4	0	4.67	0.00	22,440	58,152	85,864				
13	0.00	7,430,619	13.0	2,400,081	2,493,174	5,885,361	0	2,818,227	13,247	0.0	0	3.6	0	3.92	0.00	22,440	43,270	64,298				
14	0.00	7,517,049	15.1	2,404,163	2,493,175	5,885,358	0	2,825,006	13,264	0.0	0.0	2.2	61,022	7.42	0.00	22,440	0	92,519				
15	0.00	7,597,128	15.2	2,407,483	2,493,176	5,885,357	0	2,831,673	13,283	0.0	0.0	1.9	0	8.80	0.00	22,440						
16	0.00	7,677,206	15.2	2,410,803	2,493,177	5,885,356	0	2,838,339	13,301	0.0	0.0	1.6	15,893	10.17	0.00	22,440	65,276					
17	1.38	7,760,245	20.0	2,415,450	2,493,177	5,885,356	0	2,846,090	13,346	0.0	0.0	1.7	14,625	11.25	0.00	22,566	58,014	43,056				
18	0.04	7,844,841	19.5	2,419,268	2,493,178	5,885,356	0	2,853,723	13,346	0.0	0.0	2.1	0	11.17	0.00	22,566	57,712	93,218				
19	0.00	7,925,049	14.1	2,422,214	2,493,178	5,885,355	0	2,859,182	13,362	0.0	0.0	2.4	0	8.25	0.00	18,426	50,138	85,820				
20	0.00	7,998,793	19.5	2,426,011	2,493,178	5,885,353	0	2,866,420	13,362	0.0	0.0	2.5	27,695	7.67	0.00	18,426	0	49,924				
21	0.27	8,074,812	17.3	2,428,692	2,493,179	5,885,353	0	2,871,903	91,112	0.0	0.0	2.4	0	8.67	0.00	21,691	34,986	85,916				
22	0.82	8,153,869	15.7	2,432,658	2,493,180	5,885,353	0	2,879,343	91,123	0.0	0.0	2.6	0	9.96	0.00	21,691						
23	0.67	8,232,925	14.1	2,436,624	2,493,180	5,885,353	0	2,886,783	91,133	0.0	0.0	2.7	0	11.25	0.00	21,691	84,154	42,880				
24	0.00	8,324,001	15.1	2,441,597	2,493,180	5,885,353	0	2,887,057	91,160	0.0	0.0	3.0	0	9.00	0.00	21,691	50,118	42,898				
25	0.01	8,403,136	14.5	2,447,238	2,493,181	5,885,347	0	2,898,009	91,184	0.0	0.0	3.4	0	10.34	0.00	21,691						
26	0.00	8,482,270	13.9	2,452,878	2,493,181	5,885,340	0	2,908,961	91,207	0.0	0.0	3.7	39,024	11.67	0.00	21,691	58,016	93,072				
27	0.01	8,564,886	14.4	2,458,072	2,493,411	5,885,319	0	2,916,527	91,234	0.0	0.0	3.3	0	8.50	0.00	21,691	50,101	71,436				
28	0.07	8,642,518	13.8	2,458,850	2,493,497	5,885,319	0	2,928,619	91,254	0.0	0.0	3.6	31,802	7.50	0.00	22,212	50,097	64,186				
29	0.01	8,720,648	14.1	2,463,437	2,493,498	5,885,314	0	2,942,042	91,294	0.4	0.0	3.6	0	8.09	0.00	22,212						
30	0.00	8,798,778	14.4	2,468,024	2,493,499	5,885,308	0	2,955,465	91,334	0.8	0.0	3.6	0	8.67	0.00	22,213	57,282	42,967				
31	0.00	8,881,952	16.8	2,474,265	2,493,499	5,885,302	0	2,955,557	91,360	1.0	0.0	3.7	0	8.50	0.00	22,211	42,942	92,935				
Totals	3.46										0		346,857			741,602	1,275,913	1,680,627	0	0	7,130	0

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Notes:

- NR = No Records, NA = Not Available.
- Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
- Columns G and J include quantities from leak detection system.
- Column B, trace is less than 0.01 inches.
- Columns C, D, E, F, G, H, I, J, K, L, N, R-V and W are quantities from flow meters.
- Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

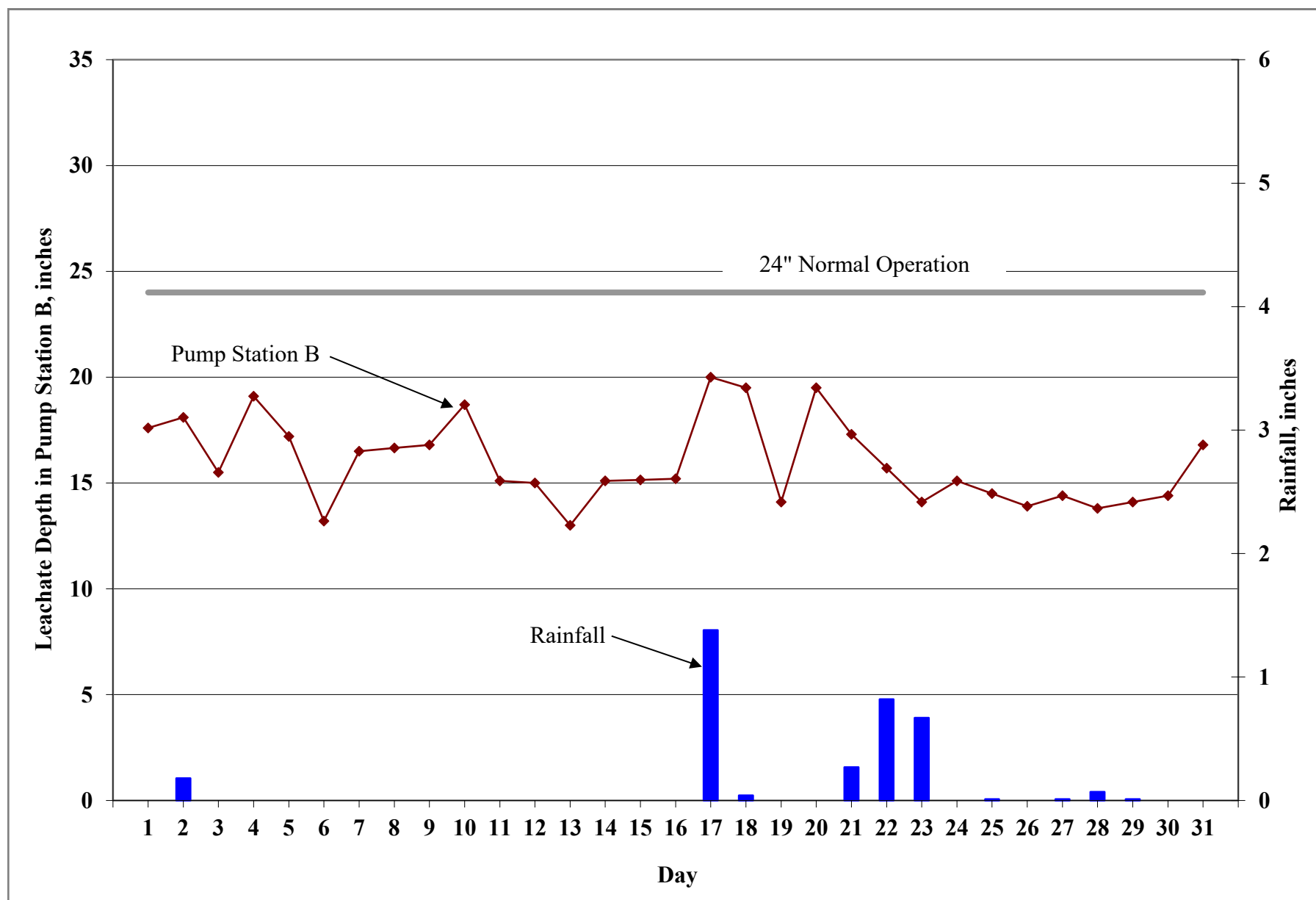


Figure 1. Leachate Levels in Pump Station B and Rainfall for December 2019.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2019**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		Condensate from LFG CS-1 (gal.)	Leachate from Section 9 Pumped to LTRF (gal.)	Leachate from Section 7-8 Pumped to LTRF (gal.)	Leachate from Phases I-VI Pumped to LTRF (gal.)	Compost Leachate (gal.)	Total Leachate Hauled from LTRF (gal.)	Leachate Dust Control (Sprayed) (gal.)	Leachate Treated at LTRF (gal.)	Total Effluent Hauled (gal.)	Effluent Dust Control (Sprayed) (gal.)	Effluent Irrigation (gal.)	Total Inflow to LTRF (gal.)	Total Outflow from LTRF (gal.)	Change in Storage ³ (gal.)
January	3.49	5,965	183,738	300,356	3,440,156	86,476	3,729,332	0	0	0	0	0	4,016,691	3,729,332	287,359
February	1.79	5,764	134,983	209,810	2,852,838	8,503	3,154,367	0	0	0	0	0	3,211,898	3,154,367	57,531
March	1.66	5,650	113,315	197,794	2,758,333	2,816	2,856,561	0	0	0	0	0	3,077,908	2,856,561	221,347
April	1.93	4,894	91,489	150,765	2,229,544	0	2,151,105	0	0	0	0	0	2,476,692	2,151,105	325,587
May	3.48	4,873	85,825	138,667	2,197,558	13,400	2,180,324	0	0	0	0	0	2,440,323	2,180,324	259,999
June	8.24	6,360	82,019	139,810	2,120,857	213,400	2,595,924	0	0	0	0	0	2,562,446	2,595,924	-33,479
July	16.80	40,540	222,521	319,700	2,348,809	393,000	3,018,581	0	0	0	0	0	3,324,570	3,018,581	305,989
August	10.78	23,589	230,478	854,886	4,123,659	255,600	5,365,060	0	0	0	0	0	5,488,212	5,365,060	123,152
September	1.50	4,193	230,478	493,733	3,903,411	0	4,552,505	0	0	0	0	0	4,631,815	4,552,505	79,310
October	8.20	2,936	190,274	357,485	4,094,351	0	4,418,868	0	494,924	0	0	401,976	4,645,046	4,913,792	-268,747
November	0.98	1,128	165,074	302,347	3,770,161	0	3,468,733	0	615,531	0	0	569,265	4,238,710	4,084,264	154,446
December	3.46	1,045	124,625	241,725	3,315,608	0	2,956,540	0	741,602	7,130	0	346,857	3,683,003	3,698,142	-15,139
YTD Total	62.31	106,937	1,854,819	3,707,078	37,155,284	973,195	40,447,900	0	1,852,057	7,130	0	1,318,098	43,797,313	42,299,957	1,497,356

Note:

1. If the bypass at the effluent pond is ever used to pump effluent back to the LTRF, this table must be modified.
2. Change in storage represents total inflow to LTRF minus total outflow from LTRF.